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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/565,829	08/25/2006	Mahn-Joo Kim	2934760195	7314

4743 7590 01/25/2008  
MARSHALL, GERSTEIN & BORUN LLP  
233 S. WACKER DRIVE, SUITE 6300  
SEARS TOWER  
CHICAGO, IL 60606

EXAMINER
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CHO, JENNIFER Y

ART UNIT	PAPER NUMBER
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1621

MAIL DATE	DELIVERY MODE
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01/25/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/565,829	Applicant(s) KIM ET AL.	
	Examiner Jennifer Y. Cho	Art Unit 1621	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 December 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12, 14-16, 18, 19 and 21 is/are pending in the application.  
     4a) Of the above claim(s) 13, 17 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14-16, 18-19 and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **Detailed Action**

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/3/07 has been entered.

Claims 1-12, 14-16, 18-19 and 21 are pending in this application. Claims 13, 17 and 20 have been cancelled.

### **Claim Rejections – 35 USC 112**

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being confusing, because of the “stabilized” description in claim 1 and the “stabilized or fixed” description in claim 18 for subtilisin. The Examiner is unclear as to how these terms differentiate subtilisin. Clarification is requested.

### **Claim Rejections – 35 USC 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12, 14-16, 18-19 and 21 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Fitzpatrick et al. (J. Am. Chem. Soc., 1991, 113, 3166-3171), in view of Kim et al. (Current Opinion in Biotechnology, 2002, 13, 578-587).

For reasons, see previous office action and responses stated herein.

### **Response to Arguments**

Applicant's arguments have been considered but are not persuasive for the following reasons:

The Examiner acknowledges Applicant's argument that Fitzpatrick et al. teaches that a "major obstacle to a wider exploitation of enzyme selectivity is its relative inflexibility."

In response, the Examiner points to Fitzpatrick et al.'s teaching that "if one wishes to alter it, two options are available - to change the reactants or to change the reaction conditions." (page 3166, second column, lines 2-4). Thus, Fitzpatrick teaches that changing the reactants, in this case, adding Kim et al.'s racemization ruthenium metal catalyst, would allow use of their subtilisin enzyme for wider synthetic exploitation.

The Examiner acknowledges Applicant's argument that claim 1 recites "stabilized subtilisin", whereas Fitzpatrick et al. uses subtilisin itself.

In response, the Examiner points out that the prior art does not state whether the subtilisin is fixed or stabilized, thus it is reasonable to assume the subtilisin is stabilized.

The Examiner acknowledges Applicant's argument that "subtilisin itself was generally known to have poor activity, selectivity and stability in organic solvents, and therefore one of ordinary skill would not have a reasonable expectation of success in using it in dynamic kinetic resolution".

In response, the Examiner points out that Fitzpatrick et al., not Kim et al., was used to teach the use of subtilisin in organic solvents. Since Fitzpatrick et al. teaches that the S enantiomer of the chiral alcohol was 50-fold more reactive towards subtilisin than its R counterpart (page 3167, column 2, second to the last paragraph, lines 7-8), one of ordinary skill in the art desiring to make the S-alcohol would have used subtilisin for dynamic kinetic resolution.

Therefore, it would be prima facie obvious to one of ordinary skill in the art at the time of the invention, to use the ruthenium racemization metal catalyst of Kim et al. and to reduce the ketone, with a hydrogen donor, to get the corresponding alcohol as the

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starting material, as shown in Kim et al., for the transesterification reaction of Fitzpatrick et al. The expected result would be the efficient formation of an (S)-chiral alcohol from the racemic alcohol or corresponding ketone, in high yield.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Y. Cho whose telephone number is (571) 272 6246. The examiner can normally be reached on 9 AM - 6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne Eyler can be reached on (571) 272 0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jennifer Cho  
Patent Examiner  
Art Unit: 1621

  
FOR

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Yvonne Eyler

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Supervisory Patent Examiner  
Technology Center 1600